



Teachers

Renewable Energy Basics

Resource Guide

DTE Energy has compiled a list of relevant educational resources on renewable energy. Many curriculum guides, activities and interactive sites exist to aid teachers develop lesson plans for teaching students about renewable energy.

Please see our specific guides on wind, solar, hydroelectric, geothermal, and biomass power for more links.

Basic Information on Renewable Energy:

Energy Education Resources: Kindergarten Through 12th Grade is published by the National Energy Information Center (NEIC), a service of the Energy Information Administration (EIA), to provide students, educators, and other information users a list of generally available free or low-cost energy-related educational materials.

<http://www.eia.doe.gov/bookshelf/eer/kiddietoc.html>

Current Energy contains charts of several states comparing the energy demand with the power grid supply. This site, offered by the Berkeley Laboratory, is great for showing students how generation of energy is supplied to customers.

<http://currentenergy.lbl.gov/>

Buzzle.com webpage includes information on renewable basics. Teachers may find helpful facts on the most commonly utilized forms of renewable energy: wind, solar, biomass, geothermal, and more.

<http://www.buzzle.com/articles/energy/>

Educational Resources:

Energy for Educators is an online source for lesson plans on renewable energy offered by the Idaho National Laboratory. Lesson plans exist for elementary, intermediate, and high school levels on topics of wind, solar, geothermal, nuclear, hydro, biomass and energy.

<http://www.energyforeducators.org/index.shtml>

Power and Energy Interactive Lessons offers interactive lessons and guides to study power and energy in the home, the power grid, economics and emissions, and more. Lessons are suitable for students from elementary to high school level. The lessons have been aligned with the science and math standards for Illinois.

<http://tcip.mste.illinois.edu/applets.php>

The National Renewable Energy Laboratory offers education programs for teachers and students grades k-12. Teachers will find links to information on science fairs and competitions and careers/jobs in renewable industries.

<http://www.nrel.gov/education/teachers.html>

The Nation Energy Education Development (NEED) Project is designed to offer teachers hundreds of resources to educate students on renewable energy sources. The NEED Project offers curricular guides for K-12 teachers. Lessons include both a teacher and a student handbook. Students may find games, puzzles, activities, and science fair projects.

<http://www.need.org/Guides-Subject.php>

Energy Kids is a children's website presented by the U.S. Energy Information Administration for the education of kids on energy resources. Teachers will find lesson plans on renewable energy, games and activities, and information suited for students K-12.

<http://tonto.eia.doe.gov/kids/energy.cfm?page=Plans>

Renewable Energy Link from Upper Cape Tech (Massachusetts) offers renewable energy curriculum in solar thermal, photovoltaic, biodiesel, and wind energy.

<http://www.uppercapetech.com/Renewintro.htm>

Alliant Energy Kids offers resources for teachers on renewable energy basics, creating projects and finding lesson plans and activities from online sites.

<http://www.alliantenergykids.com/TeachersandParents/index.htm>



The U.S. Department of Energy offers multiple resources for teachers and students. Teachers will find a resource guide to find hundreds of lesson plans on renewable energy. Teachers may also find information on clean energy careers and school competitions in renewable energy topics. Students may be directed to the kid's website homepage to explore renewable energy facts, play games or do activities, and to investigate energy conservation at home.

Lesson Plan Resource Guide: <http://www1.eere.energy.gov/education/lessonplans/>

Kids Website Homepage: <http://www.eere.energy.gov/kids/>

Home page (Energy Efficiency and Renewable Energy): <http://www.eere.energy.gov/>

The Energy Lab is a resource site for teachers to access curriculum on energy education. The resource list includes lesson plans for primary and secondary educators, information on science fairs, career days, and games/activities.

<http://www.netl.doe.gov/education/index.html>

Energy Star Kids is a great place to send students to investigate energy definitions, concepts and facts. Student can play interactive learning games, take quizzes and find out how they can take action to conserve energy. Teachers can access links to acclaimed curriculum in energy education.

http://www.energystar.gov/index.cfm?c=kids.kids_index

The U.S. Department of Energy is offering grants to middle-schools, high schools, and colleges and universities for used energy-related laboratory equipment.

<http://www.osti.gov/erle/>

Energy Quest is a children's website designed to teach kids about energy basics, conservation, renewable energy and more. The site includes interactive games, activities, and information pertaining to energy education. Teachers will find a resource list for lesson plans and in-class projects and activities.

Kids Homepage: <http://www.energyquest.ca.gov/>

Teacher Resource Directory: http://energyquest.ca.gov/teachers_resources/index.html

InfinitePower.org, hosted by the Texas State Energy Conservation Office, offers K-12 teacher's lesson plans in energy basics and renewable energy sources.

<http://www.infinitepower.org/lessonplans.htm>



The Pembina Institute offers lesson plans in renewable basics, solar electricity, solar heat, wind power, water power, biomass and other renewable technologies.

http://www.re-energy.ca/t_teacher.shtml

Discovery has lesson plans for science teachers on a variety of energy topics. This lesson allows teachers and students to implement renewable energy projects at school.

<http://siemens.discoveryeducation.com/resources/teacher-resources/renewable-energy/>

Northern Arizona University has compiled a list of resources for K-12 teachers to find information and curriculum in renewable energy education.

<http://ses.nau.edu/education/curriculum/K-12/K-12main.shtml>

Science Netlinks offers lesson plans on renewable energy and many related topics. Teachers will find lessons, tools, resources, and benchmarks to aid in their teaching.

<http://www.sciencenetlinks.com/lessons.php?BenchmarkID=8&DocID=26>

TVA Kids is a children's website designed to introduce kids to renewable energy forms, specifically solar, wind and methane gas. Teachers will find links to educational materials and can read about TVA's programs for kids.

<http://www.tvakids.com/teachers>

Energy For Keeps is an illustrated guide to electricity from renewable energy sources for 6th grade + students. Teachers will find a downloadable pdf file of the book and resources to renewable energy sites at this book's homepage.

<http://www.energyforkeeps.org/teachers.html>

Energy Teachers is a site maintained by teachers interested in energy education. The site includes curriculum, announcements, forums for discussion, and a calendar of energy education events.

<http://www.energyteachers.org/>

Kids Korner is a children's website dedicated to promoting education on renewable energy resources. Teachers will find lesson plans and activities to use in the classroom on various renewable resources.

Kids Homepage: <http://nespower.apogee.net/kids/>



General Science Resources:

The USA.gov for Science site is an excellent resource guide for general science educators looking for educational materials and websites. A great deal of energy related information can be found through this listing.

http://www.science.gov/browse/w_133.htm

Energyfiles is a science virtual library for teachers to find and access over 500 databases and websites containing science and technology information, including many sites on renewable energy. Teachers may find this site useful for student research projects or for curriculum searches.

<http://www.osti.gov/energyfiles/>

The Federal Resources for Educational Excellence (FREE) contains hundreds of resources in the sciences for teachers and students to research.

http://www.free.ed.gov/subjects.cfm?subject_id=240&toplvl=41&res_feature_request=1

Teachers are encouraged to take a look at DTE Energy's facts and activities compiled for kids on wind, solar, geothermal, hydroelectric, and biomass power for more information and links to educational materials.